COMPACTION
OF ASPHALT
PAVEMENTS
TYPES OF ROLLERS

Steel Wheel
Pneumatic
Vibratory
- VIBRATION ON-OFF
- FREQUENCY
- AMPLITUDE
- NUMBER OF PASSES
- SPEED
- ROLLING ZONE
- PATTERN
Low Frequency
Impact Spacing
High Frequency

FREQUENCY
DIRECTION OF TRAVEL
**Spacing between impacts**
(based on average rolling speed)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>2mph</th>
<th>3mph</th>
<th>4mph</th>
<th>5mph</th>
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<tbody>
<tr>
<td>2000 vpm</td>
<td>1.06</td>
<td>1.58</td>
<td>2.11</td>
<td>2.64</td>
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<tr>
<td>2200 vpm</td>
<td>0.96</td>
<td>1.44</td>
<td>1.92</td>
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<tr>
<td>2400 vpm</td>
<td>0.88</td>
<td>1.32</td>
<td>1.76</td>
<td>2.20</td>
</tr>
<tr>
<td>2600 vpm</td>
<td>0.81</td>
<td>1.22</td>
<td>1.63</td>
<td>2.03</td>
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<tr>
<td>2800 vpm</td>
<td>0.75</td>
<td>1.13</td>
<td>1.51</td>
<td>1.89</td>
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<tr>
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<td>1.06</td>
<td>1.41</td>
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<tr>
<td>3200 vpm</td>
<td>0.66</td>
<td>0.99</td>
<td>1.32</td>
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<tr>
<td>3400 vpm</td>
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<td>0.93</td>
<td>1.24</td>
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<tr>
<td>3800 vpm</td>
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<td>0.83</td>
<td>1.11</td>
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</table>
AMPLITUDE
USE LO AMPLITUDE
USE HI AMPLITUDE
ROLLING PATTERNS AND TECHNIQUES
COMPACTION by STATIC WEIGHT
Compaction by Kneading Action
Compaction by Vibrating Rollers
COMPACTION
OF
STIFF MIXES
COMPACTION OF TENDER MIXES
Compaction of Superpave Mixes

Compactive Force

Pressure Vibration

Pressure Manipulation

Pressure

Temperature Zones

300° - 285°

240° - 200°

170 - 150°

TENDER ZONE
Compaction of Superpave Mixes

Approximate Density Measurement

- 91% - 92% of M.T.D.
- 92% of M.T.D.
- 94% - 97% of M.T.D.

Temperature Zones

- 300° - 285°
- 240° - 200°
- 170 - 150°

Distance

- 200 feet
- 200 feet
- 150 feet